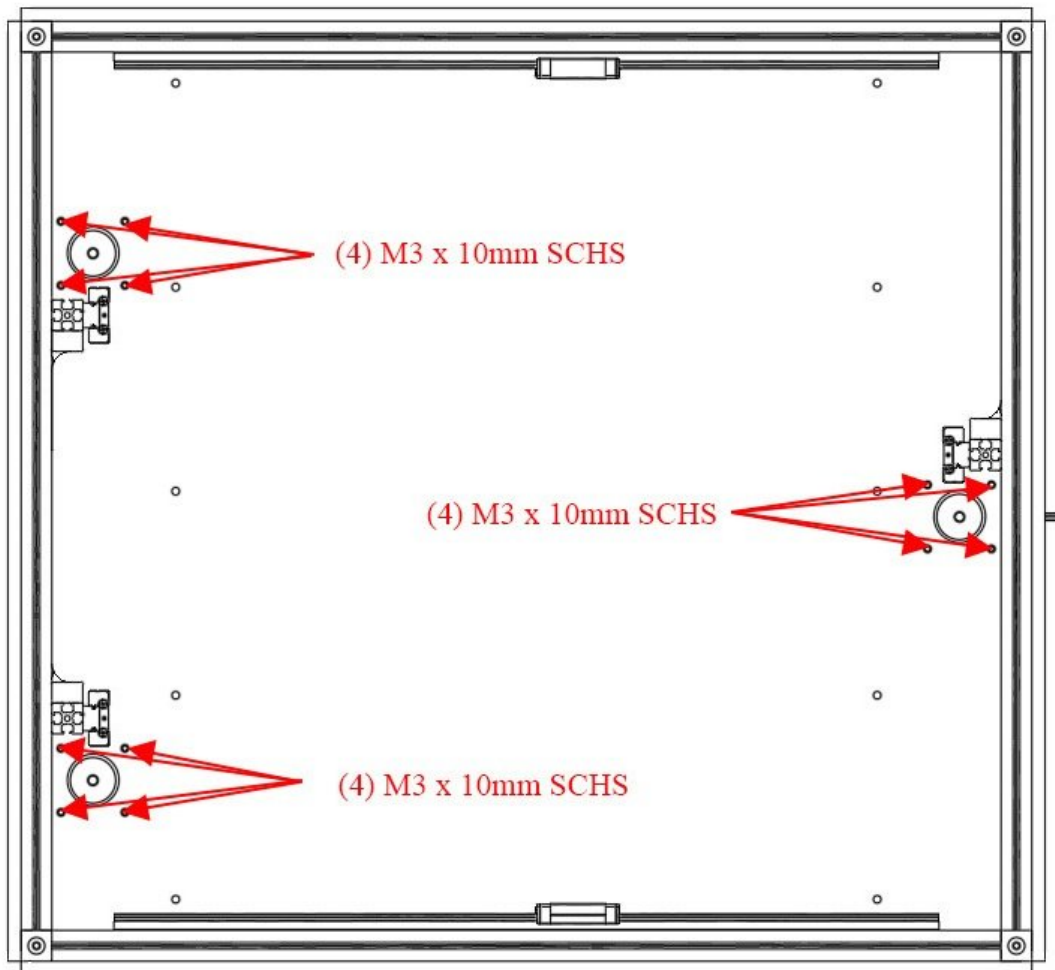


railcore

H) Leadscrews and Z Yokes

Written By: Tony Akens



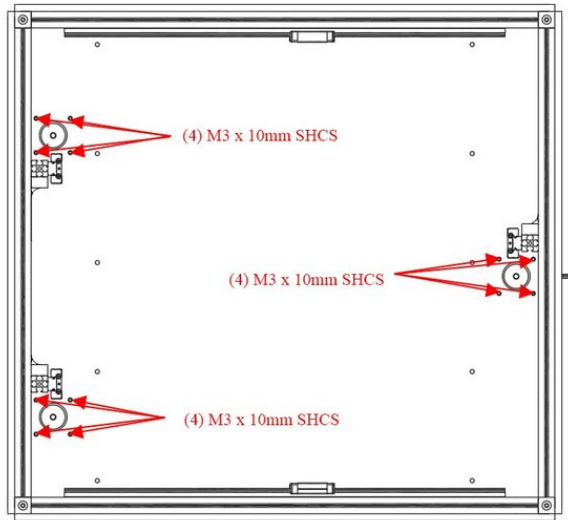
**TOOLS:**

- [Set of Allen Keys](#) (1)

**PARTS:**

- [Nema17 Stepper Motor \(1.8 degrees\)](#) (3)
- [M5 / M8 Leadscrew Coupler](#) (3)
- [450mm Leadscrew](#) (3)
- [M3 x 10mm Button Head Bolt](#) (12)
- [M3 x 12mm Button Head Bolts](#) (12)
- [Anti-BackLash Nut](#) (3)
- [Z Yoke](#) (3)

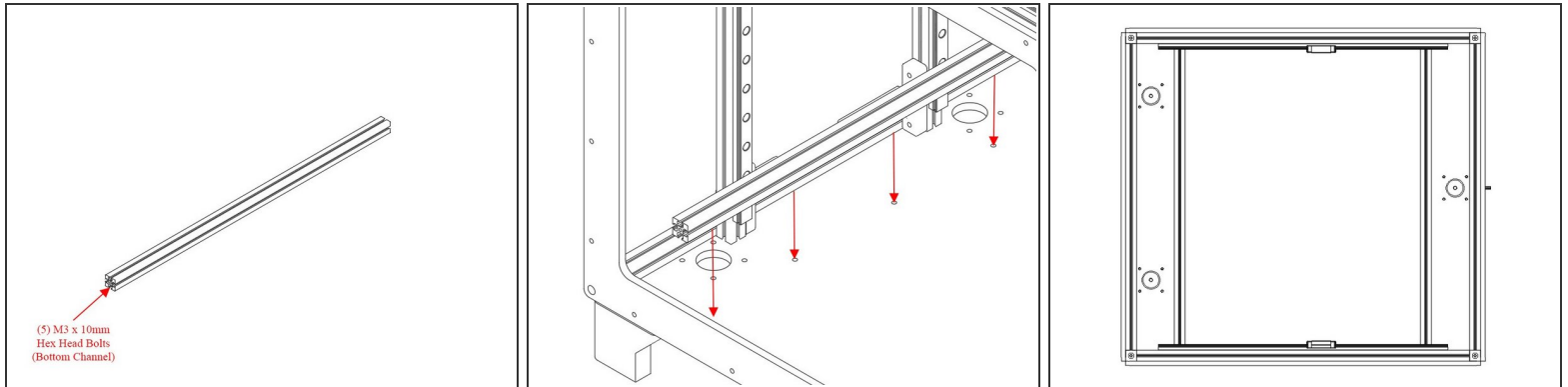
Step 1 — Z Stepper Installation



- Install the (3) Z steppers into the bottom panel using (4) M3 x 10mm socket cap head screw per stepper. The connectors should point towards the right side of the printer.

! It's important the Z towers are positioned on the correct side of the steppers, as is shown in the picture.

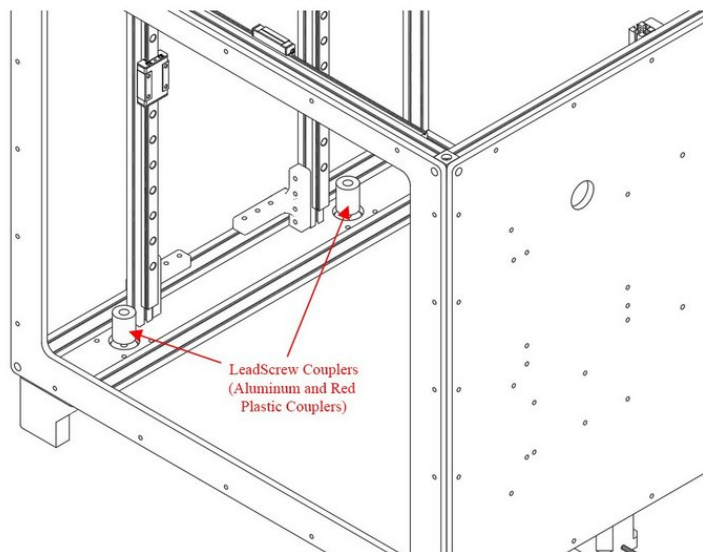
Step 2 — Bottom Brace Installation



⚠ Skip this step if using an aluminum base plate

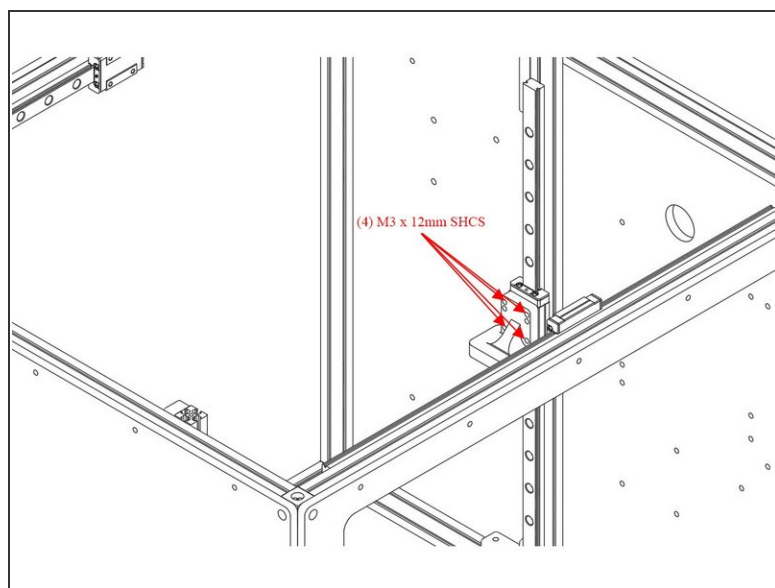
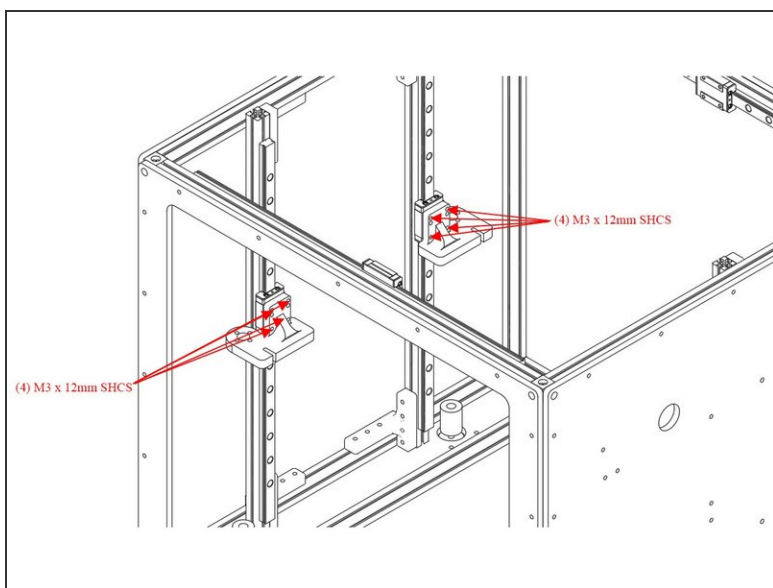
- Insert (5) M3 x 10mm Hex Head Bolts into the bottom channel of one of the remaining 425mm Extrusions.
- Lower the extrusion to the bottom panel so the bolts go through the 5 holes that go front to back in the panel, near the left side steppers.
- Secure the bottom panel brace using (5) M3 washers and (5) M3 nuts on the bottom side of the printer.
- Repeat this process for the brace on the right side of the bottom panel.

Step 3 — Leadscrew Couplers



- Install the (3) Leadscrew couplers onto the Z stepper shafts. The couplers should be fully seated and tightened.
- The Couplers are silver, with colored plastic combining the two halves.
- ❗ The third stepper on the right side of the printer is not pictured.

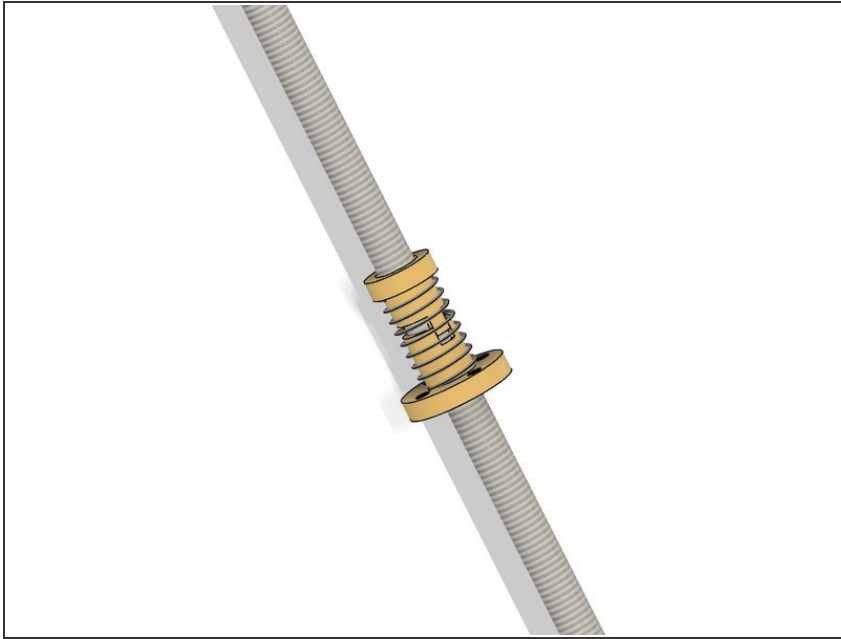
Step 4 — Yokes



- Install the (3) Z Yokes onto the Z carriages using (4) M3 x 12mm Button Head Bolts each. Note the orientation of the yokes in the pictures - ensure the hole for the leadscrew lines up over the stepper.

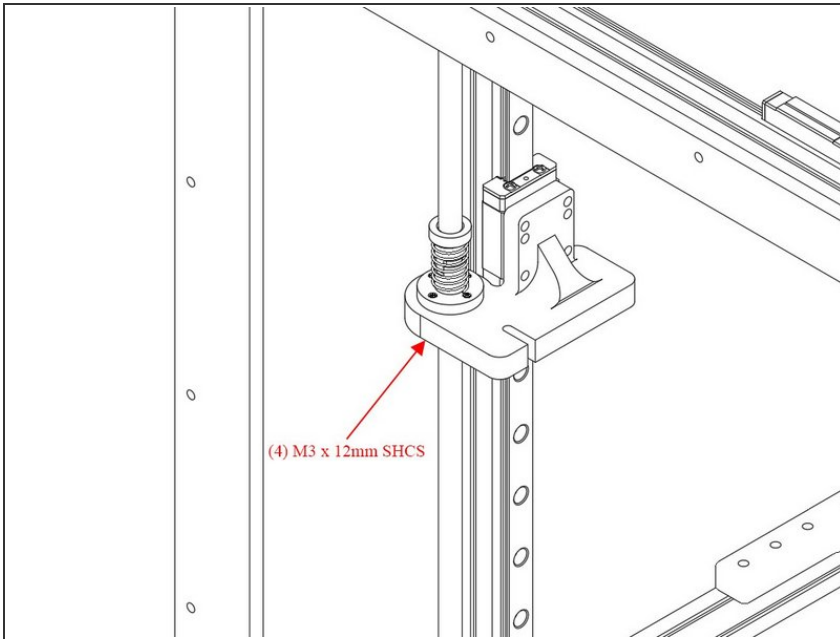
⚠ For Misumi linear rails, use M3 x 10mm instead of M3 x 12mm bolts.

Step 5 — Anti-backlash Nut



- Prepare the anti-backlash nut for mounting onto the leadscrew.
- Thread the bottom half (with the flange) down onto the screw until just the teeth are sticking up past the end of the leadscrew.
- Put the spring on the bottom of the leadscrew nut and hold it there until the next step.
- Insert the top of the leadscrew nut, pushing down until the teeth in the upper and lower parts interlock.
- Thread the nut assembly onto the leadscrew, until it's about 1/3 of the way down.
- Repeat the above steps for the other (2) leadscrews.

Step 6 — Leadscrews



- Insert the leadscrew down through the hole in the yoke, and into the leadscrew coupler.
- ❗ You may need to slide the Z tower around to line it up so you can get the leadscrew into the coupler.
- Tighten the grub screw in the coupler.
- Insert (4) M3 x 12mm Button head bolts through the bottom of the yokes, and into the holes on the leadscrew nut flange. Do not overtighten, you can strip the Delrin.